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I, JANENE PEISKER, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2003902401 for a patent by JOHN BARRY FINN and BRIAN DOUGLAS JENKINS as filed on 19 May 2003.



WITNESS my hand this  
Twenty-first day of November 2003

*J. Peisker*

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**Provisional Specification**

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**Invention Title**

**Water Distillation Unit (Automatic/Semi Automatic) with  
reticulated cooling system**

**The invention is described in the following statement**

This water distiller comprises several key components to facilitate its operation.  
They are the boiling chamber, collection system and cooling head.

The boiling chamber (11) is constructed of stainless steel, it can be a large pot or ideally a hot water urn. Its purpose is for the containment and boiling of the raw water (10).

It is fitted with a purpose built stainless steel collection container (6) having a flat bottom, which rises in a conical shape to the square sides. This container will hold approximately 1 litre of distilled water (7) before it will over flow into the stainless steel pipe (8) which carries the distilled water out of the boiling chamber, the distilled water then flows directly into the stainless steel filter (9) containing granular activated carbon which post filters the distilled water.

The cooling head (5) is the most integral component of the apparatus. It comprises two purpose built parts, its base and lid, the identical shapes have been welded together to form the cooling head. It works in the following manner:

They have a flat centre section which rises in a conical shape outwards until it reaches the outer wall which rises at a more acute angle for a short distance to the top lip which turns out parallel

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with the centre section. This lip is use to join the two halves. The top section is fitted with three fittings, these fittings facilitate coldwater inlet (3), hot water outlet (2), and the warm water tap off (1). During operation the head is filled with pumped cold water from the heat transfer unit (not shown). This cold water enters the cooling head through fitting (3). the lowest entry point, this cold water is directed to the lowest part of the of the cooling head to maximise the heat transfer occurring on the bottom of the cooling head where the condensation of the steam is taking place, on its outer surface. The heated water then rises in the cooling head towards the hot water outlet (2) and is carried to the external heat exchange unit to be cooled and returned. The warm water outlet (1) is connected to the inlet (11) for the boiling chamber, this being controlled by a float valve in the boiling chamber. This maintains a constant level in the boiling chamber, with the input being equivalent to the output of the apparatus, this minimises temperature fluctuations and assists efficiency and overall output. The supply is maintained via a controlled feed to the pump tank, this is achieved via a gravity feed or mains supply through a float valve.

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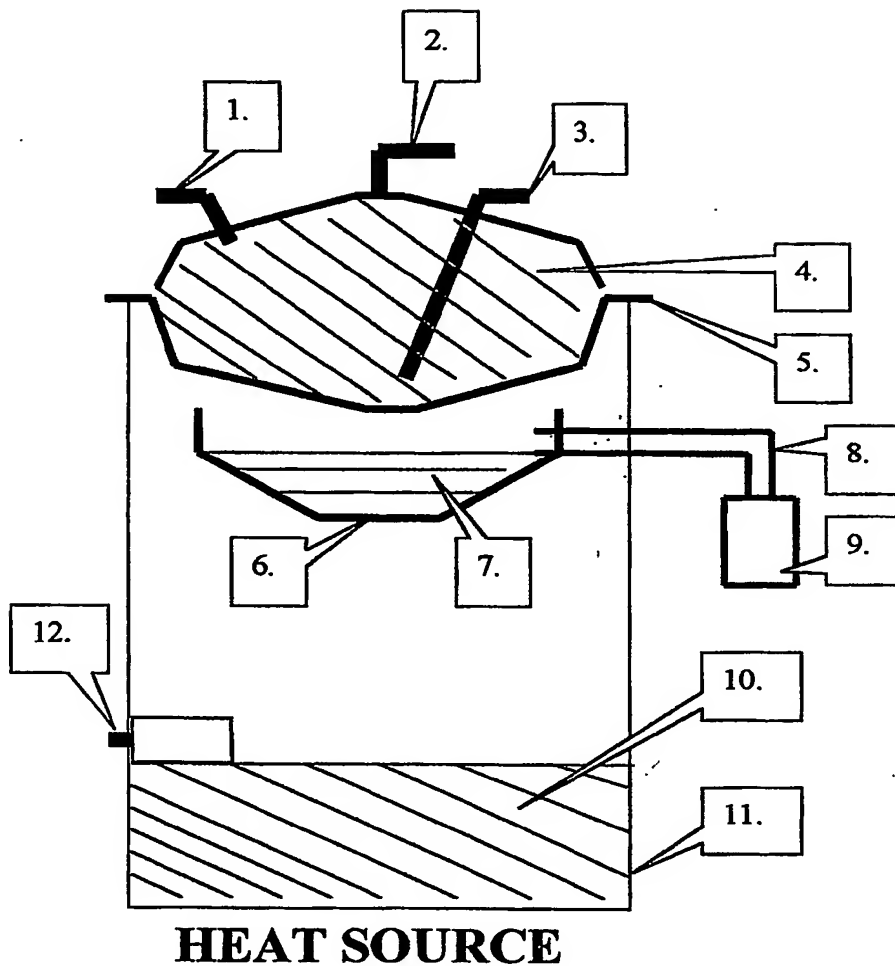
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Name of Applicant(s)

Date

# Water Distillation Unit.



- 1 Heated water outlet
- 2 Cooling head- hot water out
- 3 Cooling head- cold water in
- 4 Coolant water
- 5 Stainless steel cooling head
- 6 Stainless steel distilled water collector
- 7 Distilled water
- 8 Stainless steel pipe and fittings
- 9 Stainless steel refillable post carbon filter
- 10 Raw water
- 11 Boiling chamber
- 12 Heated water inlet to float valve